**M. Stuart Lynn**
**Testimony before the Little Hoover Commission**
**Investigation into the Use of Technology in State Government**
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Dear Mr. Chairman:

Thank you for the opportunity to present my views to the Little Hoover Commission. I come to you with the perspective of one who has recently retired from forty years of experience in the information technology field, culminating as CIO of one of the largest and most complex state universities in the country, namely the University of California. Please forgive me if my retiree status allows me a certain degree of irreverence in my remarks.

Whereas the University of California is only one part of the overall California public sector and whereas universities differ in important respects from government organizations, my experience nevertheless allows me a sympathetic view of the enormous problems faced by those trying to achieve progress in the implementation of major systems that straddle complex organizations – and a skeptical view of those who propose faddish solutions that do not recognize this complexity. It is not an easy task. Further, the solutions do not rest entirely within the scope of information technology organizations. Far from it.

In my remarks, I would like to (1) explore this complexity and its relation to the problems of system implementations (2) present my views on how progress is hindered when stakeholder and technology interests are not clearly aligned (3) propose those areas in which alignment of interests is most likely to succeed and also have the greatest overall influence on those areas where such alignment is more difficult (4) briefly evaluate how well state governments are doing in these areas, and (5) recommend a framework of enablement that can encourage progress that contrasts with control methodologies that inhibit and slow down.

### *Squaring the Circle*

Governments are untidy by nature. They are rambling structures with both highly centralized and highly decentralized components. Programs span federal state, and local governmental structures that often conflict with each other. Decentralization and healthy conflict are indeed critical components of any democracy, even where – as they almost always do – they spawn inefficiencies. This is the price we pay.

The question is to what extent it is reasonable to expect technologies or technologists to compensate for these inherent inefficiencies of our democratic systems? The salesperson who sold my wife and I our first microwave oven told us that the appliance does not turn a lousy cook into a good cook. It turns a lousy cook into a faster lousy cook.

I suggest that we must set reasonable horizons for what we can expect of the application of information technologies across complex governmental systems, that is unless we are prepared to change radically our structures of government which is doubtful. Fred Forrer touched on this in his testimony before you when he discussed the concept of information politics.

For these and other reasons, we must also be careful in assuming that the successes of the private sector easily translate into the public sector. Corporations have their own structural dynamics and are certainly not as hierarchically authoritative as popularly believed. But they are able to marshal authority behind pursuit of the bottom line and there are nationally accepted norms as to what the

bottom line means. What is the "bottom line" of government and what are the corresponding norms? I shall return to these questions later.

Furthermore, the private sector is not without its own problems and significant failures which often parallel those of the public sector, only they receive less scrutiny and publicity, and are often buried behind the smooth façade of e-commerce. Many corporations – just like the rest of us – have wrestled with the implementation of commercially developed enterprise systems designed for highly centralized organizations that are not readily adaptable to authoritatively distributed organizations.

The propagated myth in almost all cases is that complex organizational structures can (should?) adapt their business practices to fit the efficiencies of uniform systems. This has proven to be extraordinarily difficult. Organizations – and especially government and highly decentralized organizations – are extremely resistant to change. Business practices change slowly. It takes dedicated and persistent leadership from the highest levels pursuing a clearly articulated vision of the highest priority and urgency to the survival of the organization. This is what characterizes more than anything else the wonderful successes of corporations like Cisco and Schwab and Company. The question is to what extent these kinds of successes can be carried over to the government sphere, and how.

All the project and change management systems in the world will not compensate for this essential fact: that until the integration of information and technologies becomes accepted as essential to the future survival of the organization and this becomes the overriding concern of top leadership, it is very difficult to avoid failures and half successes in the implementation of systems that span organizational units with different goals and objectives. Information technology organizations cannot of themselves easily override underlying organizational inertia and distributed power centers of control, however articulate the IT leadership may be.

Winston Churchill opined that "war is much too dangerous a business to be left to generals". Likewise, the integration of information technologies into the future of government is much too dangerous a business to be left to information technologists alone. Whenever I hear of the finger being pointed at IT organizations, I know this is only one of several tactics used to divert attention from the fundamental cause of failure: the lack of knowledge, leadership, and involvement from the top. Information technology organizations cannot square the circle, or, to merge metaphors, fit square pegs into round holes. "Top", of course, is a relative term that means different things under different circumstances, and I use the term loosely.

Simplistic solutions are easily proposed. Use this project management system or that, this latest fad or that, this steering committee or that CIO job definition. But these, too, are diversionary tactics. Just like the doctors in Bernard Shaw's "The Doctors' Dilemma" who argued endlessly while the patient lay dying as to whether to "cut out the cuneiform sac", "stimulate the phagocytes" or whatever their own particular dubious specialty demanded. Good project management systems and coordinating leadership bodies are, of course, extremely important and can always be strengthened. And they should be. But they will not of themselves compensate for the lack of leadership vision and commitment of priorities and resources essential to the kinds of successes we have seen in some segments of the corporate world. They are necessary, but not sufficient.

How does this leadership commitment come about? We shall return to this point later. But to lay the groundwork I must take a brief – albeit cursory – look at the "bottom line" of government, and assess where state governments stand with regard to that bottom line.

### *The Bottom Line of Government*

What is the "bottom line" of government? I do not want to engage in political philosophy and thankfully am not qualified to do so. I am sure this "bottom line" takes on many disguises and formats. But for our purposes, perhaps we can agree as a working definition that it ultimately translates into services to our citizens in improving health, education, welfare, safety, and mutual respect, and protecting our freedoms – John Stuart Mill's "greatest good".

Unlike the corporation bent on maximizing shareholder value, however, we cannot all agree what this means, what norms should be established, and what systems of measurement should be used, particularly among those who – temporarily or otherwise – wield the reins of power. To the elected politician ultimately the key measurement may be the number of votes s/he receives at the next election. To the appointed official, job survival and career advancement might dominate s/his decisions. And these may translate into different requirements at the federal, state, or local level. To the voter on the street, the bottom line might mean more foodstamps, fewer crimes, or a lower student/teacher ratio.

I mention this to emphasize how difficult it is for the application of information technologies to assume the same sense of urgency and priority in government as it has recently in some corporations. Bottom lines in government are very individual and not universally accepted. Systems that improve the internal efficiencies or effectiveness of government departments are very important, no question about it. But if the chain of understanding between such gains in efficiency and effectiveness and the bottom lines of leadership or consumers has too many links, the commitment will not be there to transcend bureaucratic cross-governmental inertia.

There have been many systems successfully implemented within the California's state government, although these successes are often over-shadowed by the notoriety of significant failures. These successful implementations, however, are generally those that fit reasonably well within the boundaries of a single department or agency, and do not need to interface with multiple organizational units (as contrasted, say, with the child welfare system).

I would argue that systems with the greatest chance of success are those that directly affect the bottom line of significant numbers of consumers, that is, increase the "greatest good" in very discernible ways. Consumers are voters. Government actions that clearly benefit their interests and those of their communities translate into favorable publicity and votes – at least at the margin. And the prospect of favorable publicity and even marginal votes translates into the kind of leadership commitment from all levels of government essential to the success of systems that transcend organizational boundaries. An alignment of stakeholder interests. I do not wish to appear cynical. Leaders are motivated by more than just votes – they also must perceive it to be the right thing to do within their framework of principles and priorities.

The Y2K effort was necessary, of course, but diverted resources and management attention from achievements that have more direct bearing on stakeholder interests. The effort, however, exemplified that cross–organizational accomplishments are possible when the spotlight is brought to bear upon the problems, and with leadership from the top and the right kinds of enabling mechanisms. It did create an alignment of interests.

Online delivery of government services to consumers of these services (E-government) represents another huge opportunity for creating this alignment with more discernibly productive results than Y2K. The incredible growth and undeniable success of the World Wide Web has occurred because the Web brings amazing power and capability to the individual, who can now easily

accomplish tasks that would have been inconceivable pre-WWW (including some tasks we wish could not be undertaken, to be sure). *E-commerce*, among many other successes, has harnessed this power. *E-governmen*t has taken some important steps, but has a long way to go.

The worlds of commerce and E-commerce have recognized that the customer is king ("quing"?), that customer focus is the only driving force that counts. E-government is still struggling with this notion.

The challenge is for state governments to fully embrace the Web to deliver services to consumers (voters, citizens). No toes in the water here, if you please. But a dedicated, committed, over-arching vision driven by the highest levels of government leadership. "Self-service" should become the watchword. Never demand that consumers must stand in line to do something they can do better, faster, or easier for themselves over the Web – the former wastes at least two people's time per transaction and requires space and time restrictions (be here at such and such a time). Any place, any time is what we need. And "easy access".

We must of course concern ourselves with the digital divide, and take urgent steps to eradicate it so that all consumers can benefit. But that divide will recede with time, as it did with television, and this is already happening in California. Kiosks in malls and public libraries can also help – a requirement that could indeed become a key driver of the vision. We will always need one-on-one service for those citizens who are truly electronically challenged or disenfranchised – but this will require fewer state employees dedicated to such tasks since the numbers of these disenfranchised citizens will be significantly reduced over time.

These efficiencies may only be realized slowly. Even those who are electronically enabled will only adapt to on-line services gradually as they become more aware of their existence and utility, and trust that privacy and security issues have been adequately addressed. But the *perception* that government is trying to do something useful will occur much more rapidly, particularly among younger voters who are more acclimated to an on-line world.

Efficiencies gained by freeing state employees from routine tasks is one of the most immediate benefits to be gained by a focus on web-based self-service. But there is one other critical benefit. Organizations that have pursued this path find that a focus on the customer interface drives the backend systems towards greater effectiveness and efficiencies in ways that do not happen otherwise. Miracles start to happen.

Why is this? It is precisely because the customer interface, if handled correctly requires a unified approach that crosses organizational boundaries, and demands resolution of the conflicts that bedevil systems that are more internally or locally focused. Those organizations that are passionate about customers rapidly find that internal bureaucracies, jurisdictional disputes, and local business processes collapse in the face of the customer steamroller. And if the commitment to this customer interface is motivated by the highest levels of leadership – persistently and with the highest sense of urgency and priority – there is a greater chance of overcoming local resistance. Everyone wins, everyone becomes a hero. Suddenly those local "requirements" that used to seem important -- whether to use two columns or three columns in a report or whatever – melt away into mere quibbles.

There are, of course, significant privacy issues to be considered and the tendency of newspapers to focus on the occasional failures (there are no exciting news stories to be gleaned from reliable performance). The State must exercise leadership in this privacy domain and set examples to be followed. Consumers will make their own choices – as they always have – in trading off privacy

concerns against their own convenience. My bet is the trade-off will favor convenience, particularly as we strengthen privacy laws and enforcement.

Before looking at how well state governments are doing in commitment to self-service and the customer interface, there is another point to be made. I have used the words voter, citizen, customer, and consumer somewhat interchangeably. This is intentional. People assume different roles in different circumstances. Someone who wishes to renew their driver's license today, may be a state employee wishing to change their W4 filing or benefit selections tomorrow. And there are many state employees who can avail themselves of the benefits of self-service, with corresponding gains to the efficiencies and effectiveness of internal state government operations, too. And these employees vote.

Furthermore, there are other kinds of internal customers – other state agencies, for example. There is something both quaint and alarming about the fact that – at least as of a few months ago – claims submitted by the University of California and other agencies to the State Controller's Office must be submitted on paper with two holes punched at the top, so that the documents can be bound with string (no staples allowed). Furthermore, the State Controller's Office cannot send wires, so paper checks (warrants) are mailed to the University's lockbox or delivered each month by armored courier. And I suppose that all employees of the State Controller's Office are required to wear green eyeshades. Especially the Director of String Binding.

### *The State of the E-State*

So how are states doing in general as far as E-government is concerned and where does California stack up? What is the state of the e-state? I will focus on Web consumer self-service because, as have argued, it can be such a driver of everything else.

The best way to assess this is as a consumer, not by reading strategic plans and project initiatives (there's not much to find, in any event). Test-drive the Web. Play at being a customer, something every government administrator and legislator should do from time to time. Sneak a peek, too, at what other states are doing.

The good news is that California is not lagging behind and is somewhere in the front of the pack. The bad news is that the pack has far to go to compete with the best of E-commerce.

Organizing a web interface state government websites is almost as much of an oxymoron as organizing government itself. It is a difficult job. State government websites largely commit the cardinal sin of organizing around the organizational hierarchy rather than around consumer interest, and assume that every citizen memorizes that hierarchy right after the Ten Commandments. Or they are used for issuing press releases or for the political promotion of the Governor or the Secretary of State or whoever's face we are so anxious to see. Just like paying your property taxes to Ephineus Scrogg, County Tax Assessor.

After all, organizing around the organization is the easy way. It avoids cross-departmental collaboration. Hierarchies must prevail.

California goes one better. The first question the intrepid citizen encounters at California's entryway (www.ca.gov) is whether s/he is enabled to use Flash, Java, Standard, or Text. Now that is *really* user friendly. Techies only may enter here. Don't bother trying to reach your government online if you do not know the difference between Flash and Java or whether you are using Version 4.3.02 or later of your browser.

Consumers are not interested in hierarchies or politics. They want to renew a driver's license, apply for Medical, register a change of address, or vote online (if they cannot otherwise go to the polls). If they want to renew a driver's license, they should not have to struggle through the hierarchy to find the Department of Motor Vehicles (California), the Bureau of Motor Vehicles (Ohio), or the Department of Licensing (Washington). Or know whether to search for the bureau or department under the Department of Transportation (California) or the Department of Public Safety (Ohio) or whatever. And when they search by subject keywords, they do not want to find every obscure departmental memo or regulation that someone just happened to post on some internal website.

In fact, California's website does contain notions of function as well as hierarchy – such as links to the lottery results or road conditions on the homepage – and also provides a helpful index. Only these functional notions are idiosyncratically implemented in small letters. The hierarchy is in big letters and is pervasive through the central website. Some parts of California's state website, including the Department of Motor Vehicles, are very well organized. Some states (for example the State of Washington or Ontario Province in Canada) are starting to experiment with organizing their websites around communities of interest. The trouble is that these are often Potemkin Village webfronts. Behind the enticing façade is a cobweb of tangled and partial information (dis)organized around local whim and fancy with little or no sense of cohesion to assist the user.

The dominant use of state government websites is to provide reference information, such as lottery and election results – and listings of rules and regulations. Some departments (again I would cite the California DMV) organize these rules and regulations into more consumer-accessible language. This is useful, of course, but there is generally little apparent thought given to cross-agency consistency and information organization. There is a lack of overall design philosophy and architecture reflecting policy goals. In many ways, California does better than most, but the record is fragmented.

Most states, including California, now use the Web for consumers to download forms. This, too, is certainly useful, although on-line direct application would be far better. But the forms delivery service is erratically implemented. Why can I download a Change of Address form (DMV14) from the California Department of Motor Vehicles but not a Driver's License Application (DL44)? Why cannot *every* State form be conveniently located and downloaded? Why cannot I just go to www.forms.ca.gov? This doesn't require sophisticated project management techniques. It is not rocket science. Just do it.

The greatest opportunity which is relatively untapped is in delivery of on-line services. Some states are starting to make inroads. The Department of Motor Vehicles in the State of Virginia provides a comprehensive range of online services including vehicle registration and driver's license renewal. And the services are not hard to find. Many states (for example, Arizona, Arkansas, Louisiana) already allow online vehicle registration or renewal. California is planning on-line vehicle registration soon (in a major joint project with IBM).

But there is little else today, although I am sure much is on the drawing boards. One can only hope. And perhaps reality will match expectations.

### *Enablement over control*

The above brief synopsis is presented not to disparage what exists, but to highlight the enormous opportunities and to provide background to understanding the role of central management.

The key is not projects, solutions, or control -- but enablement. The trouble with reducing everything to systems and projects is that it implies a linear approach to what is essentially a multi-dimensional complex problem space. Systems and projects are important, but they must occur within a larger framework of enablement.

Such a framework enables a climate and environment of possibilities in which the delivery of services to consumers will flourish with minimal central control, but do so in a coherent manner directed at users and at communities of interest reflecting State service and consumer interests – not just promote politicians and local bureaucratic needs.

The role of the "center" is to provide this framework, a framework of vision, policies, architectures, incentives, and best practices. To generate a sense of excitement and teamwork in working towards a common vision, not to impede progress trying to achieve illusory efficiencies.

The *vision* clearly sets forth that e-government will focus on the consumer and be passionately driven by the consumer, on the on-line delivery of consumer services organized around communities of interest not around the bureaucracy. This must be a vision developed with broad involvement of governmental leadership, not by technologists alone (although they must be at the table). Departmental plans and progress will be evaluated against progress towards accomplishing this vision. Some aspects of this are very simple – such as the forms example given above – other aspects are more complex to implement and assess. Set a few key goals and milestones.

*Policies* shape the sandbox in which departments can play while working towards the vision, such as privacy policies or policies that circumscribe authorities and responsibilities. And, I suppose, contracting and purchasing policies. And of course such policies must reflect – or where necessary influence – State and Federal laws.

*Architectures* that set forth the implementation framework, including an overall website interface design and organization architecture, a technology architecture, a security architecture, a privacy architecture, a naming architecture, an architecture for accountability and measurement – and an implementation architecture that, among other issues, addresses how to survive the IT talent shortage and how to manage contract services.

*Incentives* are mechanisms that encourage decentralized departments to advance the overall vision, working within the framework of policies and architectures. Normally these are funding incentives that supplement departmental funds.

*Best Practices* is a code phrase for aggressively monitoring what peer governments and others are doing, and how – what can be learned from the successes and failures of others. Every department and agency should be required to report regularly on how they compare to corresponding units in other states – and even other countries. California should *compete* to be the best. No less can be expected in a state that has spearheaded the information technology revolution.

There are also critical areas that can only be undertaken by the center. These need to be identified and aggressively planned and pursued. Universal citizen authentication, for example – that is, implementing the technologies and policies needed to ensure that someone using e-government on-line services is really who they say they are. The e-driver's license. This is a key enabler of e-government services (and other applications, too) that requires State leadership. It is certainly, for example, a pre-requisite to effective on-line voting. Yet what we see is too much focus on what we cannot do, not what we can do and what needs to be done.

### *In Conclusion*

In the above remarks, I have intentionally focused on the on-line delivery of services to external and internal consumers. This, of course, is not the whole story and is an over-simplification. There is much hard work to be done in the traditional systems domain, and others have commented on how this can be done better and more responsively. My purpose in narrowing the scope of my remarks is to focus attention on what can be done now and accomplished quickly with minimal change to current structures. And also because I believe, as I have noted, that focus on the customer interface drives back into what happens behind the scenes.

In conclusion:

- It is not realistic to expect IT-based systems – particularly those that reflect business processes that transcend departmental boundaries -- to compensate for the inherent disorganization of government without obtaining leadership and sustained commitment from the highest levels.

- The key to obtaining this commitment is to choose directions that align with the "bottom lines" of the stakeholders involved. E-government – on-line delivery of government services to consumers – has the greatest potential for creating this alignment. And E-government also has the greatest potential for influencing change to underlying systems and business processes. Priority-setting should focus on high impact, low complexity for the kinds of quick wins that build success and confidence. The rest will follow.

- With some exceptions, state governments in general and California in particular are lagging in the delivery of on-line services to its consumers. Their websites too often emphasize organizational hierarchies over the needs of consumers. Much progress, however, is being made.

- The good news is that there are enormous opportunities for improvement. This will, however, take vision and leadership from the "center" with emphasis on building frameworks of enablement and excitement over impediment and control.

Respectfully submitted,
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